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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,492	02/05/2001	Michele Bargauan	34057/GM/1p	8462

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MODIANO & ASSOCIATI  
Via Meravigli, 16  
MILANO, 20123  
ITALY

EXAMINER
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PATHAK, SUDHANSHU C

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,492

Applicant(s)

BARGAUAN, MICHELE

Examiner

Sudhanshu C. Pathak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on May 9<sup>th</sup>, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on September 24<sup>th</sup>, 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-to-16 are pending in the application.

#### *Response to Arguments*

2. In regards to the applicants telephone call, the Examiner apologizes for not being able to discuss the application so as to resolve the issues in the examination of the application. Furthermore, the Examiner would prefer to set an interview date and time so as to be prepared thoroughly to discuss the application. The Examiner is including his email address ([sudhanshu.pathak@uspto.gov](mailto:sudhanshu.pathak@uspto.gov)) so as to **only** schedule an (phone) interview, considering the applicant is in Italy. The Examiner tried to call the applicant on June 22<sup>nd</sup>, 2006, and left a message with Ms. Sederica Hendriks.
3. Applicant's arguments filed on May 9<sup>th</sup>, 2006 have been fully considered but they are **not persuasive**. In regards to the arguments presented in the amendment it is **still not clear** as to **How the components connected as described in the specification and Figures 2-3 results in the complex signal. Furthermore, the examiner (of record) has consulted other examiners so as to provide guidance, and it is still not clear how the real signal is converted into the complex signal with inherent quadrature.** It is recommended that the applicant provide further detail in the specification as to how one of ordinary skill in the art would get the result as is claimed i.e. converting a real signal into a complex signal. The drawings of the waveforms of the signals into and out of each component, as described in Figures 2 & 3) provided in the above

mentioned amendment still do not provide enough insight as to how the complex signal is created.

4. The amendment filed on May 9<sup>th</sup>, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Specification on (Page 3, lines 20-25) discloses the selector to alternatively send the signal for a period equal to twice times the band-center frequency of the signal to be converted on a branch I, while on the opposite branch Q there is a zero signal, and for a period on the branch Q (with the zero signal on the branch I) with a frequency equal to twice the band-center frequency of the signal to be converted.

Applicant is required to cancel the new matter in the reply to this Office Action.

5. In regards to the "Remarks" presented:
  - It is assumed that the signal "Test signal" (Remarks, Page 2) corresponds to the "real signal" designed to be converted into the complex signal and the "added wave" (Remarks, Page 3) corresponds to the signal from the oscillator (Fig. 2, element 7). The specification & Claim 1 disclose adding to the real signal a signal whose frequency is four times the band center frequency of the real signal. However, the Figures in the Remarks section ("Test Signal" & "added wave") show the frequency of the test signal to be greater than the frequency of the added wave.

- Furthermore, it is not clear as to how multiplying the thresholded signal(s) with the signal from the oscillator (Fig. 2, element 16) result in obtaining quadrature between the components of the complex signal. In the Remarks section Pages 5-6 also do not disclose “I<sub>out</sub>” & “Q<sub>out</sub>” & “I<sub>filtered</sub>” & “Q<sub>filtered</sub>” to be in quadrature.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-to-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
- Regarding to Claims 1-to-16, the specification does not disclose in a full, clear and exact terms as to **How the components connected as described in the specification and Figures 2-3 results in the complex signal** converted from the real signal. It is also not clear as to how the selector selecting the “I” branch for a period of four times the band-center frequency of the incoming signal and selecting the “Q” branch for a period of two times the band-center frequency of the incoming signal; it is not clear how this uneven selection of time between the “I” & “Q” branches results in a quadrature between the two branches. It is again

not clear how the multipliers "14" & "15" function or if it works as a mixer it is again not clear how the mixer works with a square wave input and a sinusoid input being mixed; more details on the mixer (Fig. 2, elements 14 & 15) operation are required, furthermore it is again not clear how inverting (multiplying by "1" & "-1") the oscillator signal produces the "I" & "Q" signal.

In regards to Figure 3, a dc-offset (Fig. 3, element 23) is implemented so as to avoid removing the DC-component at the threshold circuits (Fig. 3, elements 14 & 15), however these components are still implemented in the embodiment as described in Figure 3.

8. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are a single means claims i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In *re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to *Hyatt* is possible, where the claim covers every conceivable structure (means) for

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achieving the stated property (result) while the specification discloses at most only those known to the inventor. See MPEP 2164.08(b).

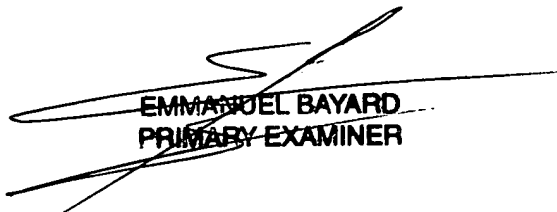
**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
EMMANUEL BAYARD  
PRIMARY EXAMINER

Sudhanshu C. Pathak  
Examiner  
Art Unit 2611